

Claims

What is claimed is:

- 5 1. An improved air cleaner comprising:
 - a lower retaining segment, an upper retaining segment, and a filtration member;
 - said filtration member having an upper filtration member end and a lower filtration member end, wherein said upper filtration member end is engaged with said upper retaining segment and said lower filtration member end is engaged with said lower retaining segment; and
 - said lower retaining segment further comprises an air cleaner coupling means for coupling said air cleaner to an air cleaner receptacle.

- 15 2. The improved air cleaner of claim 1 wherein said air cleaner coupling means further comprises a distal end, a contiguous end, an inner surface, and an outer surface, wherein said contiguous end of said coupling means is adjacent to said lower retaining segment, and said outer surface of said coupling means further comprises a threaded portion between said contiguous end and said distal end.

- 20 3. The improved air cleaner of claim 2 wherein said threaded portion of said air cleaner coupling means is removably attachable to a threaded air cleaner receptacle.

4. The improved air cleaner of claim 2 wherein said air cleaner coupling means further comprises an annular groove extending upward from said contiguous end to said distal end, and between said inner surface and said outer surface of said coupling means.

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5. The improved air cleaner of claim 4 wherein said air cleaner coupling means further comprises a support member inserted in said annular groove.

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6. The improved air cleaner of claim 5 wherein said support member is comprised of an essential component of the air cleaner

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7. The improved air cleaner of claim 5 wherein said support member further comprises an inner filter mesh barrier.

8. The improved air cleaner of claim 7 wherein said inner filter mesh barrier is comprised of metal.

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9. The improved air cleaner of claim 1 wherein said lower retaining segment and said air cleaner coupling means are integrally formed from a single material.

10. The improved air cleaner of claim 9 wherein said single material
is urethane.

5 11. The improved air cleaner of claim 1 wherein said upper
retaining segment further comprises a gripping means.

12. The improved air cleaner of claim 11 wherein said gripping
means further comprises a plurality of scallops on an outer surface of said
upper retaining segment.

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13. A method of coupling the improved air cleaner of the present
invention to an air cleaner receptacle wherein said improved air cleaner
comprises a coupling means, and said air cleaner receptacle comprises a
threaded receptacle means comprising the steps of:

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inserting said coupling means into said threaded receptacle means;
and

rotating said improved air cleaner within said air cleaner receptacle
until adequately secure.

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14. The method of coupling the improved air cleaner of the present
invention to an air cleaner receptacle of claim 13 wherein said air cleaner
coupling means further comprises a distal end, a contiguous end, an inner
surface, and an outer surface, wherein said contiguous end of said

coupling means is adjacent to a lower retaining segment, and said outer surface of said coupling means further comprises a threaded portion between said contiguous end and said distal end.

5 15. The method of coupling the improved air cleaner of the present invention to an air cleaner receptacle of claim 14 wherein said air cleaner coupling means further comprises an annular groove extending upward from said contiguous end to said distal end, and between said inner surface and said outer surface of said coupling means, and having a support member inserted in said annular groove.

10 16. The improved air cleaner of claim 15 wherein said support member further comprises an inner filter mesh barrier.

15 17. A method of removing the improved air cleaner of the present invention from an air cleaner receptacle wherein said improved air cleaner comprises a coupling means and said air cleaner receptacle comprises a threaded receptacle means comprising the steps of:
grasping the air cleaner of the present invention; and
20 rotating said improved air cleaner within said air cleaner receptacle until disengaged.

18. The method of removing the improved air cleaner of the present
invention from an air cleaner receptacle of claim 17 wherein said air
cleaner coupling means further comprises a distal end, a contiguous end,
an inner surface, and an outer surface, wherein said contiguous end of
5 said coupling means is adjacent to a lower retaining segment, and said
outer surface of said coupling means further comprises a threaded portion
between said contiguous end said distal end.

10 19. The method of removing the improved air cleaner of the present
invention from an air cleaner receptacle of claim 18 wherein said air
cleaner coupling means further comprises an annular groove extending
upward from said contiguous end to said distal end, and between said
inner surface and said outer surface of said coupling means, and having a
support member inserted in said annular groove.

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20. The method of removing the improved air cleaner of the
present invention from an air cleaner receptacle of claim 19 wherein said
support member further comprises an inner filter mesh barrier.

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